Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
International Bureau Seeks Comment on Recommendations Approved by World Radiocommunication Conference Advisory Committee	)	IB Docket No. 16-185

COMMENTS OF NCTA – THE INTERNET & TELEVISION ASSOCIATION

In 2014, the Federal Communications Commission adopted a set of pro-consumer and pro-investment rules for unlicensed technologies operating in the 5150-5250 MHz band (U-NII-1). These rules converted an underutilized and over-regulated band into a key resource for consumer and business broadband services by allowing outdoor use and higher power levels, with protections for incumbent operations. The FCC's adoption of commercially viable technical rules produced a model that other regulators around the world have begun to follow to expand connectivity. Enhanced global access to U-NII-1 will not only benefit U.S. Wi-Fi equipment vendors through new markets, but will also reduce costs for U.S. consumers and businesses, including the U.S.-centered Wi-Fi industry, by improving global economies of scale for unlicensed equipment.

The Commission can best support the widespread adoption of its U-NII-1 rules for the upcoming CITEL PCC.II meeting, and at the 2019 World Radiocommunication Conference ("WRC-19"), by adopting View A of the WRC Advisory Committee ("WAC") on Agenda Item 1.16 (Document WAC/066) ("View A") for reconciliation with the Executive branch. View A

recommends that the Commission support its own U-NII-1 rules as the proposal to CITEL—consistent with the Commission's long tradition of supporting its rules for proposals to CITEL and at a WRC. NCTA – The Internet & Television Association joins a diverse group of broadband providers, semiconductor companies, manufacturers, software and cloud companies, and trade associations in urging the Commission to support View A in upcoming consultations with the U.S. Department of State and the U.S. Department of Commerce's National Telecommunications and Information Administration ("NTIA") on the development of U.S. positions for CITEL and ultimately WRC-19. Likewise, relative to Agenda Item 1.13 and the WAC's Recommendation for 66-71 GHz, NCTA supports the No Change proposal in Document WAC/064, so that the U.S. proposal to CITEL for the upcoming PCC.II meeting will reflect the Commission's current rules under Part 15 to allow unlicensed broadband in the band.

The Importance of the 5150-5250 MHz Band for Advancing FCC Broadband Policy

Unlicensed spectrum bands have become the most important frequencies for consumer and business broadband. Existing bands, including the 5125-5250 MHz band, now carry more internet data that any other single wireless technology or service, and within this decade Wi-Fi alone will account for nearly half of all internet traffic.[1] This success means that unlicensed technologies contribute enormously to the nation's economy. A recent study by Dr. Raul Katz shows that just a sub-set of unlicensed technologies produced an economic surplus of at least $496.13 billion and contributed $29.06 billion to the U.S. GDP in 2017 alone.[2]

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[1] Cisco, *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2016–2021*, 21–22 & fig.23 (2017), https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.pdf.

[2] Raul Katz, Telecom Advisory Services LLC, *A 2017 Assessment of the Current & Future Economic Value of Unlicensed Spectrum in the United States* 4 & tbl.A (Apr. 2018), *available*

The success of today's unlicensed bands in supporting broadband, innovation, and economic growth depends on good Commission spectrum policy. In fact, a ranking of unlicensed bands in order of efficiency and economic value closely mirrors the results of ranking those bands by the operational freedom allowed by Commission rules. The lightly regulated 2.4 GHz and 5.8 GHz bands have produced far more investment and consumer benefit than the more heavily regulated U-NII-2A and U-NII-2C bands.[3]

In order to protect incumbent operations while providing enough operational freedom to support investment and innovation, the Commission adopted new rules for the 5150-5250 MHz band in 2014. Following the Spectrum Act of 2012, which called on the Commission to study ways of permitting more unlicensed operation in the 5 GHz band, the Commission studied the band, issued a Notice of Proposed Rulemaking, and received extensive on-the-record comments and reply comments. Globalstar, the sole remaining U.S. Mobile Satellite System ("MSS") licensee using the band for feeder links for several gateways, participated fully in this proceeding. After two years of study, in 2014 the Commission adopted new rules that added special restrictions specifically tailored to protect incumbent satellite operations while permitting unlicensed devices greater operational freedom. Most importantly, the Commission allowed higher power and outdoor operations, but limited e.i.r.p. above 30 degrees antenna elevation to

at http://glenechogroup.isebox.net/wififorward/economic-value-of-unlicensed-spectrum-to-reach-more-than-834-billion-by-2020.

[3] *See* Letter from Rick Chessen, NCTA – The Internet & Television Association, to Marlene H. Dortch, Secretary, Federal Communications, ET Docket No 13-49, at 3, 5 (filed Oct. 16, 2018) (describing intensity of use of 2.4 GHz and U-NII-3).

protect Globalstar's operations.[4] Globalstar itself "agree[d] that this protocol would provide interference protection to Globalstar, while permitting access to the spectrum for U-NII users."[5]

The resulting regulations in Part 15 are more restrictive than those governing the 2.4 GHz and 5.8 GHz bands, but less restrictive than the U-NII-2A and U-NII-2C bands. In response to these positive changes, the unlicensed and broadband industries invested in new deployments that have turned an underutilized band with only a few thousand users across the entire country into an important broadband resource. Critically, the new rules allow broadband operators to pair an 80-megahertz channel in the 5.1 GHz band with an 80-megahertz channel in the 5.8 GHz band to produce the only available 160-megahertz 802.11ac Gigabit Wi-Fi channel in the country. Without the Commission's changes, the U.S. would not have a single such channel available under the favorable technical rules that allow broadband deployment.

Recognizing the soundness of the Commission's approach, Canada, Indonesia, Japan, and South Korea have moved to revise their national regulations concerning the 5.1 GHz band.

Aligning ITU Radio Regulations with FCC Rules

In May of 2018 the U.S. contributed a study to ITU-R Working Party 5A ("WP 5A") confirming that unlicensed outdoor operations with power limits above a 30 degree antenna elevation will cause "no harmful interference to the single MSS system using the 5 150-5 250 MHz band for FSS feeder links."[6] This became the official U.S. position on the band based on its

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4 *See* 47 C.F.R. § 15.407(a)(1).

5 *See Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, First Report and Order, 29 FCC Rcd. 4127, ¶ 37 (2014).

6 *Sharing and Compatibility Study Between WAS/RLAN Applications and NGSO Systems in the Mobile Satellite Service with FSS Feeder Links Operating in the 5091-5250 MHz Band*,

consistency with the Commission's rules, extensive technical study, and in-depth analysis of access point deployment data. To support this finding, the U.S. study contributed to WP 5A showed a negligible long-term impact on MSS system capacity—an impact far below the 1 percent threshold acceptable under the applicable international guideline, ITU-R Recommendation S.1427.[7]

In order to further align ITU Radio Regulations with Commission rules, a diverse group of broadband and technology companies and trade associations—Apple, Inc., Cisco Systems, Inc., Comcast, Inc., Facebook, Inc., the Global Mobile Suppliers Association, Intel Corporation, Microsoft Corporation, Wi-Fi Alliance, and NCTA—supported the Recommendation for a U.S. Proposal for WRC-19 Agenda Item 1.16 on 5150-5250 MHz contained in View A at the most recent WAC meeting.

Opposing View A would be inconsistent with U.S. policy and Commission rules. Globalstar, the lead author of View B for Agenda Item 1.16, may hope to use the WRC preparatory process to re-litigate arguments that the U.S. WP 5A delegation rejected as it prepared for the last several WP 5A meetings in Geneva. At WP 5A, Globalstar presented as a Sector Member a deeply flawed technical study that fails to support its position, as expressed in "View B" to Agenda Item 1.16, for three overarching reasons. First, the study does not demonstrate that Globalstar is actually experiencing harmful interference. Second, fatal flaws in the study's design and measurement process mean that Globalstar cannot even demonstrate that its claimed measurements of a noise floor increase were caused by unlicensed operations in U-NII-1, as opposed to the wider band of 5091-5250 MHz, in which its feeder links are assigned

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Document 5A/727-E, at 35 (May 9, 2018); *see also* Radiocommunication Study Groups, Preliminary Draft CPM Text for WRC-19 Agenda Item 1.16, at 5 (May 8, 2018).

[7] ITU-R Recommendation S.1427, at *recommends* 4, NOTE 1 (approved Apr. 2006).

to operate. Third, given real-world deployments, the study does not show that noise levels in the band will ever rise to a level that would actually cause harmful interference to its operations.

The careful balance the Commission struck with its 5150-5250 MHz rules over four years ago has produced a broadband success story for American consumers and businesses. WRC-19 is an opportunity for the U.S. to share this success with the rest of the world, and to ensure that the ITU Radio Regulations advance along the path that the Commission has opened, improving economies of scale by opening new markets for the equipment U.S. consumers rely on for wireless broadband. NCTA therefore urges the Commission to support View A in reconciliation with the State Department and NTIA as the U.S. finalizes its proposals for this fall's CITEL meetings.

NCTA Supports the No Change Proposal for 66-71 GHz

NCTA also supports the WAC's Recommendation for a No Change proposal for the 66-71 GHz band, under Agenda Item 1.13, in WAC/064. That agenda item is studying whether a range of bands, including 66-71 GHz, could be identified for International Mobile Telecommunications ("IMT") 2020, an ITU term generally akin to licensed 3GPP technologies in Releases 15 and 16. As the Commission recognized when it decided to extend the unlicensed framework in Part 15 to 64-71 GHz in its *Spectrum Frontiers* proceeding, the band has promise for other non-IMT 5G technologies, like Multi-Gigabit Wi-Fi ("WiGig").[8] Many U.S. vendors and customers have already invested since the 2016 decision in this extended 60 GHz band for expanded unlicensed broadband. Identifying the band for licensed 3GPP technologies would

[8] *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd. 8014, ¶ 131 (2016).

disrupt an expanding WiGig ecosystem for delivering low-cost, innovative 5G applications. Accordingly, NCTA supports the WAC Recommendation in WAC/064 for a U.S. proposal to CITEL for No Change—no identification for IMT—in the 66-71 GHz band.

Respectfully submitted,

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